

The specification was objected to for two citations of docket numbers. The above amendment replaces these citations with U.S. Serial Numbers, which overcomes the objection.

Restriction

Claims 1-24 have been restricted under 35 U.S.C. § 121 as follows:

I. Claims 1-19 and 24 are said to be drawn to compositions, classified in class 526, subclass 250; and

II. Claims 20-23 are said to be drawn to methods of reducing melt defects, classified in Class 526, subclass 242+.

Applicants provisionally elected with traverse the invention of Group I (i.e., claims 1-19, and 24). This provisional election occurred during a teleconference with Examiner Fred Zitomer on August 17, 2000. Applicants respectfully request reconsideration and withdrawal or modification of the restriction requirement.

The inventions of Group I and Group II are related as a process additive composition comprising a multimodal fluoropolymer and a method for reducing melt defects that incorporates this process additive composition. The Examiner contended that the inventions of Group I and II are patentably distinct because the claimed product could be used in a materially different process of preparing a coating.

Applicants note that the composition of claim 1 (Group I) must be included in every method of claim 20 (Group II). When claim 1 is found patentable, claim 20 must also be found patentable. The inventions of Groups I and II are so closely related in the field of polymer processing additives that a proper search of any of the claims would, by necessity, require a proper search of the others. Thus, Applicants submit that all of the claims can and should be searched simultaneously, and that a duplicative search, with possibly inconsistent results, may occur if the restriction requirement is maintained.

Applicants submit that any nominal burden placed upon the Examiner to search accordingly to determine the art relevant to Applicants' overall invention is significantly outweighed by the public's interest in not having to obtain and study many separate patents in order to have available all of the issued patent claims covering Applicants' invention. The alternative is to proceed with the filing of multiple applications, each consisting of generally the same disclosure, and each being subjected to essentially the same search, perhaps by different Examiners on different occasions. This process would place an unnecessary burden on both the Patent and Trademark Office and on the Applicants.

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Even if the two inventions are independent or distinct, Applicants respectfully note that the Examiner need not have restricted the application, and therefore need not maintain the restriction. MPEP § 803 requires that “[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.” Thus, it is not mandatory to make a restriction requirement in all situations where it may be deemed proper.

In the interest of economy for the Examiner, the PTO, the public, and the Applicants, reconsideration and withdrawal of the restriction requirement are requested.

Nevertheless, to comply with the requirements of 37 C.F.R. § 1.143, Applicants maintain the provisional election, with traverse, to prosecute the invention of Group I, namely claims 1-19, and 24.

Election of Species

The Examiner stated that the application contained claims to two patentably distinct species of fluoropolymer additives comprising monomers of two formulas and required that a single species be selected for prosecution. The Examiner deemed claims 1 and 20 generic.

During a teleconference with the Examiner on August 17, 2000, Applicants provisionally elected, with traverse, the species of Example 8 that includes 10% HTEA and 90% HTEB. Claims 1-8, 11, 12, 14, 16-19, and 24 read on this elected species. Applicants maintain the provisional election, with traverse, and respectfully request reconsideration and withdrawal or modification of the election requirement.

Claims 20-23 also read on this elected species. If the Examiner revises the restriction requirement then these claims should be examined with the elected species. Claim 1 is generic to claim 20. When claim 1 is found patentable, claim 20 should also be found patentable. In addition, claims 21-23, which depend on claims 1 and 20 should also be found patentable.

Claims 9, 10, 13, and 15 depend from claims within the elected species. Thus, when the elected species is found patentable, the election requirement should be withdrawn and these claims should also be found patentable.

Rejection of claims under § 103

Claims 1-8, 11, 12, 14, 16-19, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,710,217 (Blong et al.) taken with U.S. Patent No. 5,718,974 (Kmieć) or U.S. Patent No. 5,350,817 (Winter et al.). This rejection is traversed.

The Examiner stated on page 4 of the Office Action that Blong taught polyolefin compositions that include processing aids that contain fluoropolymers having the claimed monomer units. The Examiner acknowledged that Blong does not teach processing aids comprising multimodal fluoropolymers (see page 5 of the Office Action). The Examiner stated on pages 4-5 of the Office Action that Kmiec teaches using multimodal resins to adjust the properties of polyolefin resin blends, including blends that contain fluoropolymer process aids. The Examiner stated on page 5 of the Office Action that Winter teaches preparing polyolefins of multimodal molecular weight distribution. The Examiner stated it would have been obvious to modify Blong to contain multimodal fluoropolymers to optimize processing conditions because Kmiec and Winter teach the embodiment for resins of the same class as in Blong.

The present invention requires a multimodal fluoropolymer. While Blong describes fluoropolymers as process aids, it does not teach or suggest using the inventive multimodal fluoropolymer. Kmiec describes multimodal polyolefins (column 3 lines 1-10), and includes a fluoropolymer process aid in a standard test formulation (column 14 Table VI). There is no teaching or suggestion to use a multimodal fluoropolymer process aid. Winter describes a metallocene catalyst system useful in producing polyolefins having a multimodal molecular weight distribution (column 1 lines 53-65). Winter also describes an aluminoxine cocatalyst that may include C1-C6 fluoroalkyl or fluoroaryl groups (column 2 lines 5-25), and zirconocenes that may include a C1-C10 fluoroalkyl group or C6-C10 fluoroaryl group (column 2 line 30 to column 3 line 39). These materials lead to a multimodal polyolefin, not a multimodal fluoropolymer process aid. Winter does not teach or suggest a multimodal fluoropolymer process aid as required by all of the rejected claims.

A host polymer that includes a fluoropolymer process aid can be described as an "A/B" system, with "A" being a host polymer and "B" being a fluoropolymer process aid. Winter describes only an "A" portion, which is multimodal. Kmiec also describes a multimodal "A" portion. Blong and Kmiec include descriptions of an "A/B" system, although neither teaches or suggests a multimodal "B" component. A description of a multimodal "A" component does not teach or suggest a multimodal "B" component. At best, the Examiner's combination of cited references would lead one of skill in the art to a multimodal host polymer. There is nothing in the cited references to teach or suggest the multimodal fluoropolymer process aid of the present invention.

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In addition, the art teaches that a multimodal polyolefin host polymer and a fluoropolymer process aid function very differently. A multimodal polyolefin host polymer is known to have a reduced melt viscosity in the resin itself, as compared to a polyolefin having a narrow molecular weight distribution. For example, Kmiec describes melt index of 0.65 g/ 10 min for the control LLDPE (column 13 lines 62-65) and higher melt indices for the multimodal polyolefin materials (Tables I to V ranging from 0.74 to 85 g/ 10 min). In contrast, fluoropolymer process aids are described to function as an equipment lubricant that reduces shear stress and back pressure in an extruder barrel (see, e.g., Rudin, et al., "Fluorocarbon Elastomer Aids Polyolefin Extrusion," Plastics Engineering, March 1986, pages 63-66, already of record: July 27, 1999 IDS). That a multimodal fluoropolymer process aid will provide better processability is far from obvious. Note also that the present invention achieves the advantages of reducing melt defects even when the melt flow index of the inventive multimodal fluoropolymer as a whole is the same as the melt flow index of a unimodal fluoropolymer (see specification as filed, page 3 lines 26-30). One skilled in the art is left without any motivation in the references or in knowledge generally available in the art to achieve the invention of the rejected claims. The Examiner has not met the prima facie burden of obviousness and the rejection should be withdrawn.

In addition, all claims of the present invention require the melt flow index ratio of two fluoropolymer components to be in the range of 2:1 to 100:1. There is nothing in any of the cited references to teach or suggest the required ratio, or any particular melt flow index of the fluoropolymer process aid in the references that describe a fluoropolymer process aid (Blong and Kmiec). Thus, the cited references do not teach or suggest all of the claim limitations so the Examiner has not met the prima facie case of obviousness. One skilled in the art is left without any reasonable expectation of success in reaching the claimed invention from the Examiner's combination of references.

In summary, this combination of references does not lead one of ordinary skill in the art to the unique features required by the rejected claims. Nothing in the cited references leads one to achieve this novel, useful, and nonobvious invention. The rejection of claims 1-8, 11, 12, 14, 16-19, and 24 under 35 U.S.C. § 103(a) as obvious over Blong taken with Kmiec or Winter is unwarranted and should be withdrawn.

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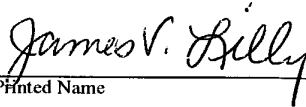
In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the rejection is requested. Allowance of claims 1-8, 11, 12, 14, 16-19, and 24 at an early date is solicited. The withdrawal of claims 9, 10, 13, 15, and 20-23 should be reversed and these claims should be allowed as they depend from patentable claims.

Respectfully submitted,

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